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ABSTRACT

This study was conducted to determine the extent of the Navy's problem with recruits who speak English as a second language (ESL). One hundred two Hispanic recruits were tested and interviewed to assess their proficiency in English and problems that low proficiency might be causing in recruit training. Two groups that work with Spanish-speaking recruits responded to a questionnaire. Results indicated that: (1) the Navy needs an ESL training program, (2) the Defense Language Institute's English Comprehension Level test should be used to screen recruits for ESL training, and (3) all recruits who speak English as a second language and who have had no prior U. S. education should be referred automatically to the ESL program. An economic analysis was also conducted. The analysis indicated that the savings resulting from lowered attrition would pay for the ESL program. (Author)

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TAEG Report No. 86

AN ASSESSMENT OF HISPANIC RECRUITS
WHO SPEAK ENGLISH AS A SECOND LANGUAGE

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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June 1980

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Level test should be used to screen recruits for ESL training, and (3) all recruits who speak English as a second language and who have had no prior U.S. education should be referred automatically to the ESL program.

An economic analysis was also conducted. The analysis indicated that the costs which would be saved by lowered attrition would pay for the ESL program.

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SECTION I

INTRODUCTION

In the current recruiting climate, the pool of potential recruits is shrinking. A major consequence is that the Navy is enlisting increasingly larger numbers of recruits who speak English as a second language. A considerable proportion of this group is experiencing difficulties in completing recruit training presumably because of problems with the English language. Problems produced by language difficulty result in a higher attrition rate, reduced promotion potential, and decreased job efficiency.

Of the various ethnic groups in the Navy enlisted population, Hispanics comprise the largest single group--about 3 percent--with about the same percentage entering recruit training. However, this figure is expected to increase sharply within 5 years. The 1980 census is expected to show that slightly more than 5 percent of the U.S. population is Hispanic. The Navy's Equal Employment Opportunity (EEO) policy will require that this same proportion of Hispanics be recruited. Secretary of the Navy Edward Hidalgo, in his first policy statement before the Defense Subcommittee of the House Appropriations Committee, indicated that past efforts to recruit Hispanics have been "far from impressive" but that there was now a "total dedication" to tap this resource.¹

The Chief of Naval Education and Training (CNET) tasked the Training Analysis and Evaluation Group (TAEG) to examine the severity of the Navy's problem in training recruits who speak English as a second language.² Since the Navy is in the process of establishing policies and a remedial training program for these recruits, accurate information about the extent of the problem is required. Little exact information has been available.

Two previous TAEG reports (Copeland, Henry, Mew and Cordell, 1976; Copeland Henry, and Mew, 1978) dealing with optimizing Navy recruit training during the 1980's have stressed the need to teach language comprehension to recruits with deficient skills. A remedial unit in recruit training needs to:

provide the individual with capability in reading and language comprehension, communication, and/or basic mathematics for completing the initial training goal. (Copeland, et al., 1978, page 28)

The current Academic Remedial Training (ART) program primarily attempts to improve reading skills. In support of this program, TAEG has developed and tested a remedial reading workbook for Navy recruits that is now part of the ART curriculum (Kincaid and Curry, 1979). A similar remedial numerical skills workbook is currently under development by TAEG.

The English as a Second Language (ESL) assessment project described in this report acknowledges the perceived need to expand the current ART program by

¹ All Hands, Issued by the U.S. Navy Office of the Chief of Information, May 1980, p. 7.

² CNET ltr Code N-53 of 20 December 1978.

including more than just reading remediation. ESL training requires a heavy emphasis on oral language skills, speaking, and listening, which are not stressed in the current ART program.

The U.S. Army has already established an ESL program as a component of their Basic Skills Education Program (BSEP). It is based on the Defense Language Institute's (DLI) curriculum and uses the English Comprehension Level (ECL) test as the screening device. The program is far-reaching. For example, Drill Instructors who identify basic trainees having trouble with English can send them to the ESL program. Training lasts up to 6 weeks and includes considerable emphasis on listening and speaking.

PURPOSE OF THE STUDY

This study assessed problems that Hispanics face during recruit training primarily because of English language deficiencies. The variables of ethnic background, education level, language proficiency skills, recruit academic performance, and attrition were considered. The costs and potential benefits to the Navy of establishing an English language training program were also examined.

ORGANIZATION OF THE REPORT

In addition to this introduction, the report contains four sections and four appendices. Section II describes the recruits tested, the kinds of information used in the study, and how it was gathered. Section III contains a summary of data. Section IV presents an economic analysis of the costs and benefits of a Navy ESL program. Section V presents conclusions and recommendations. Appendices A, B, and C contain the questionnaires administered to the recruits who served as subjects, to the Company Commanders, and to the ART instructors, respectively, as well as a summary of responses. Appendix D describes the test battery.

SECTION II

METHOD

This section describes the recruits who were tested, the kinds of information (relating to attrition, promotion, and job performance) used to assess the Navy's ESL problem, and how this information was obtained.

The project was limited to testing Spanish-speaking recruits at the Recruit Training Center (RTC) in Orlando for two reasons. First, the predominant ESL problem in the Navy is with recruits who speak Spanish and RTC Orlando trains a large number of such recruits. Second, the extensive test battery used in the study was most conveniently administered at RTC Orlando.

Data were gathered from (1) standardized tests, (2) academic tests administered during recruit training, (3) questionnaire data obtained from recruits, and (4) questionnaire data obtained from Company Commanders and ART instructors.

SUBJECTS

The subjects were 89 male and 13 female Spanish-speaking recruits undergoing recruit training at RTC Orlando. The total sample of 102 recruits was comprised of two groups: those who were assigned to the ART program (N=33) and those who were not (N=69). For the purpose of the data analysis, subjects were categorized in two additional ways: (1) whether or not there was any prior education in the U.S. and (2) ethnic background (Puerto Rican, Mexican-American or some other Hispanic background). Fluency in Spanish was determined by a short interview conducted in Spanish.

The questionnaire (appendix A) provided information about the country of origin, prior education in the U.S., years of education conducted in English (as opposed to Spanish), and use of English and Spanish in the home and social situations. Puerto Ricans comprised the largest ethnic group in the study (51 of the 102 subjects); Mexican-Americans were the second largest group (22 of 102). Seventy-six of the 102 subjects had prior education in the U.S. while 26 did not. More than half of the sample (57 of 102) speak only Spanish at home. About a third (36 of 102) greatly prefer speaking Spanish in social situations while an additional 19 of the 102 are comfortable speaking either English or Spanish socially.

Recruits not assigned to the ART program were selected during the first week of training and administered the ECL test. At the end of testing, a questionnaire with questions in both English and Spanish, was administered. In addition, most recruits were informally interviewed in Spanish to determine attitudes about recruit training. Those in the ART sample were interviewed in-depth while those not in the ART group were interviewed as time permitted.

DATA SOURCES

STANDARDIZED TESTS. Two tests used in the study are routinely administered to all recruits. These are the Armed Services Vocational Aptitude Battery (ASVAB) and the Gates-MacGinitie Reading Test, Survey D. Two scores from the ASVAB were

used: Word Knowledge (WK) and a composite score of several subtests which provide an estimate of the Armed Forces Qualification Test (AFQT) score. The Gates-MacGinitie score is used for selecting recruits for ART. Those scoring between a grade level of 4.0 to 6.0 are automatically referred for ART.

The ECL test was also administered to all subjects in the study. This test contains a listening section and a reading section. The listening section is administered via an audio tape.

Subjects in ART were administered a series of other tests in addition to the ASVAB, ECL, and Gates-MacGinitie Reading Tests. These tests assessing reading and listening ability in English and Spanish were:

- the Language Assessment Battery (LAB) published by the Houghton Mifflin Company (1976) with comparable forms in both Spanish and English (both of which were used in the study)
- the Comprehensive English Language Test (CELT) published by the McGraw-Hill Book Company (1979)
- the Inter-American Series Test published by Guidance Testing Associates (1962).

A description of these tests, the rationale for their inclusion in the battery, and the method of administration are provided in appendix D.

RECRUIT ACADEMIC PERFORMANCE. All subjects in the sample were tracked through recruit training and their scores on the four academic tests administered to all recruit trainees were recorded. Two measures were considered most important:

- the score on the Recruit Final Academic Test (RFAT) which is administered during the final week of training and covers the entire academic content of recruit training
- the satisfactory completion of recruit training. If the recruit did not graduate, the reason was recorded.

QUESTIONNAIRES. Separate questionnaires were administered: (1) to Spanish-speaking recruits and (2) to groups who are responsible for the training of Spanish-speaking recruits. The latter were Company Commanders and ART instructors at RTC Orlando. The questionnaires, together with responses are contained in appendices A, B, and C.

A list of tests in the battery and criterion measures used in the statistical analysis are shown in table 1.

TABLE 1. TEST BATTERY AND CRITERION MEASURES

| Group | Tests | Criteria |
|-------------------|---|--|
| Non-ART (N=69) | English Comprehension Level Test | Academic Tests in Recruit Training (Particularly Final Test) |
| | Gates-MacGinitie Reading Test | Graduation from Recruit Training |
| | ASVAB (AFQT and Word Knowledge) | |
| ART (N=33) | English Comprehension Level Test | Academic Tests in Recruit Training (Particularly Final Test) |
| | Gates-MacGinitie Reading Test | Graduation from Recruit Training |
| | ASVAB (AFQT and Word Knowledge) | |
| | Language Assessment Battery (English and Spanish) | |
| | Inter-American Series Tests of Reading | |
| | Comprehensive English Language Test | |

SECTION III

RESULTS

This section summarizes data dealing with the relationship among the various test scores identified in section II, data obtained from questionnaires, recruit attrition and academic performance, and English language proficiency.

TEST SCORES AND PROFILES OF SUBGROUPS

Table 2 provides a profile of test scores, demographic variables, and performance variables for the sample of 102 subjects categorized in three ways: (1) ART referral, (2) prior U.S. education, and (3) ethnic background.

The overall reading grade level of the total sample as determined by the Gates-MacGinitie Reading Test was 7.5. This is considerably lower than the overall Navy recruit average of 9.8.³ Two subgroups had average reading grade levels that could cause difficulty in recruit training. The first subgroup comprised those referred to ART with an average grade level of 5.0. The second subgroup comprised those with no prior U.S. education with an average grade level of 5.4.

The overall mean ECL score for the total sample was 79.4 which is nearly 10 points above what the DLI has established as the cutoff score for this test. It is DLI's policy to refer foreign military troops who score below 70 on the test to English language training before starting military technical training in the U.S. Those who score over 70 on the test are considered to have met minimum standards to start technical training. Two subgroups had a mean ECL score of below 70: those referred to ART (65.4), and those with no prior U.S. education (56.9). However, it should be noted that these are not independent subgroups since 15 of 26 recruits with no U.S. education were referred to ART. The mean ECL score for Puerto Ricans was 71.9 as compared with 89.7 for the Mexican-American subgroup.

ASVAB Word Knowledge mean score for the sample was 48.2 which is close to the Navy mean score of 53.5.³ The mean score for the subgroup referred to ART was considerably lower (44.2). However, overall mean AFQT score for the sample (49.6) was much lower than the Navy mean of 59.5.³

QUESTIONNAIRE DATA

Eleven of the 18 Company Commanders who answered the questionnaire indicated a need for some form of English language remediation. Even those who felt no need for remediation did not deny a problem. Each Company Commander responding to the questionnaire had "personally known...recruits...who seem to fit the ESL category." Company Commanders opposed to an ESL training program felt that recruits with English deficiencies should not be recruited in the first place.

Four ART instructors and one administrator also responded to a questionnaire containing the same types of questions as given to the Company Commanders.

³Based on CMI Recruit Grade Level Analysis Report, Chief of Naval Technical Training, November 1979. This is a computer printout, distributed monthly, which provides test score data for recruits at each of the RTCs.

TABLE 2. PROFILES OF SUBGROUPS (MEAN TEST SCORES, ART REFERRAL, AND RECRUIT GRADUATION)

| | NUMBER | READING GRADE LEVEL | ECL | ASVAB-WK | AFQT | REFERRED TO ART | DID NOT GRADUATE FROM RECRUIT TRAINING |
|-----------------------------|--------|------------------------|------|----------|------|--------------------|--|
| ART REFERRAL | | | | | | | |
| Yes | 33 | 5.0 | 65.4 | 44.2 | 40.1 | N/A | 9/33 (27.3%) |
| No | 69 | 8.7 | 86.1 | 50.1 | 53.8 | N/A | 10/69 (14.5%) |
| PRIOR U.S. EDUCATION | | | | | | | |
| Yes | 76 | 8.3 | 87.1 | 48.7 | 50.8 | 18/76 (26.6%) | 8/76 (10.5%) |
| No | 26 | 5.4 | 56.9 | 46.5 | 46.1 | 15/26 (57.6%) | 11/26 (42.3%) |
| ETHNIC BACKGROUND | | | | | | | |
| Puerto Rican | 51 | 7.0 | 71.9 | 47.7 | 49.9 | 19/51 (37.2%) | 15/51 (29.4%) |
| Mexican-American | 28 | 8.6 | 89.7 | 49.4 | 48.1 | 8/28 (28.5%) | 2/28 (7.1%) |
| Other | 23 | 7.3 | 79.6 | 48.9 | 50.9 | 6/23 (26.0%) | 2/23 (8.7%) |
| OVERALL MEANS AND TOTALS | 102 | 7.5 | 79.4 | 48.2 | 49.6 | 33/102 (32.4%) | 19/102 (18.6%) |

All felt that some form of remediation is necessary. The daily interactions of ART instructors with Hispanics made clear a critical awareness of difficulties with English.

ATTRITION

Of the 102 subjects in the study, 19 were discharged prior to completion of recruit training. The reason for each discharge was obtained from the recruits' files and from interviews with ART Instructors, Company Commanders, and, in some cases, the recruit.

Reason for each discharge, together with a judgment of whether or not the discharge was related to poor skills in English, is shown in table 3. Fourteen of 19 discharges were judged to be related to deficiency in the English language. Records for those 14 recruits contained many references to poor English skills. Representative comments directly quoted from recruit records include the following:

- Cannot understand English well enough to complete recruit training.
- This recruit has a good attitude but simply cannot understand the English language.
- Recruit is getting demotivated because of lack of progress--very low comprehension level in English.

TABLE 3. RELATIONSHIP OF DISCHARGES TO ENGLISH DEFICIENCY

| Related to English Deficiency | <u>Number</u> |
|--------------------------------------|---------------|
| Situational Reaction (Psychological) | 1 |
| Lack of Motivation (Military) | 6 |
| ART Failure | <u>7</u> |
| Total | 14/19 (73.7%) |
| Not Related to English Deficiency | |
| Situational Reaction (Psychological) | 1 |
| Convenience of Government (Enuresis) | 2 |
| Medical (Orthopedic) | 1 |
| Medical (Psychiatric) | <u>1</u> |
| Total | 5/19 (26.3%) |

Four tests, the ASVAB Word Knowledge, ECL, Gates-MacGinitie Reading Test, and the AFQT, were used to predict graduation from recruit training. Only the ECL test significantly predicted recruit graduation based on a "multiple stepwise regression analysis" (see table 4). The ECL test accounted for 25 percent of the variability of success in recruit training. This percent of variance is considered fairly large, indicating that the ECL is a good predictor of recruit graduation.

TABLE 4. STANDARDIZED TESTS AS PREDICTORS OF GRADUATION FROM RECRUIT TRAINING¹

| Group | Test | R-Square | Variance Contributed |
|---|-------------------------------|----------|----------------------|
| All Subjects (N=100) | ECL | .25 | 25% |
| | AFQT ² | .26 | 1% |
| Subjects Referred to ART (N=33) | ECL | .25 | 25% |
| | WK ² | .28 | 3% |
| | AFQT ² | .29 | 1% |
| | Gates-MacGinitie ² | .30 | 1% |
| Subjects With No Prior Studies in U.S. (N=26) | Gates-MacGinitie | .16 | 16% |
| | ECL ² | .25 | 9% |
| | AFQT ² | .26 | 1% |

¹Based on multiple stepwise regression analysis

²Did not meet .05 level of significance for entrance into model.

The inter-correlations between ASVAB Word Knowledge, AFQT, ECL, and Gates-MacGinitie Reading Test scores for the total sample (N=102) and for the ART group (N=33) are provided in table 5. Of particular interest is the fact that the Gates-MacGinitie Reading Test and ECL scores are only slightly correlated in the case of the ART group ($r=.26$) but fairly highly correlated in the case of the total sample ($r=.64$). This indicates that for the ART group, the Gates-MacGinitie Reading Test and the ECL test are nearly independent measures and suggests that both tests might be useful to screen recruits for ESL training.

TABLE 5. CORRELATION BETWEEN TESTS FOR TOTAL SAMPLE (N=102)
AND ART GROUP (N=33)

| Test | Gates-MacGinitie | ASVAB-WK | AFQT |
|------------------|------------------------|------------|------------|
| ECL | .64 (.26) ¹ | .39 (-.17) | .41 (-.01) |
| Gates-MacGinitie | | .55 (.16) | .59 (.01) |
| ASVAB-WK | | | .74 (.51) |

¹ Correlations for ART Group are shown in parentheses.

Table 6 contains inter-correlations for all tests in the battery given to the 33 subjects referred to ART. One noteworthy result is that the LAB-English, CELT, and ECL tests (all tests of listening ability) are highly correlated with correlation coefficients ranging from $r=.77$ to $r=.86$. This suggests that either the LAB-English or CELT might be useful in place of the ECL test if it is not available.

TABLE 6. CORRELATION BETWEEN TESTS OF BATTERY GIVEN TO
ART GROUP (N=33)

| Test | ECL | LAB-Spanish | LAB-English | Inter-Am. Series | CELT |
|-----------------------|-----|-------------|-------------|------------------|------|
| Gates-MacGinitie | .26 | -.22 | .23 | .09 | .17 |
| ECL | | .52 | .86 | -.06 | .77 |
| LAB-Spanish | | | -.43 | .31 | -.54 |
| LAB-English | | | | .10 | .77 |
| Inter-American Series | | | | | -.21 |

RECRUIT ACADEMIC TEST FAILURES

Recruits in the study were separated into two groups: those judged to need English language training⁴ and those judged not to need such training. Those judged to need training failed an average of 1.8 recruit academic tests (out of four) prior to graduation. Those judged not to need such training failed an average of only .6 tests. This indicates that listening deficiencies as well as reading deficiencies are related to poor performance on recruit academic tests.

⁴ Scores of less than 70 on the ECL test and/or less than 6.0 grade level on the Gates-MacGinitie Reading Test.

SECTION IV

ECONOMIC ANALYSIS

An economic analysis was conducted to determine the costs and benefits associated with continuing the ART program or adding an ESL module to it.

ASSUMPTIONS

Several assumptions were made based on extrapolation of data from the current study and information supplied by the RTC and the DLI. General assumptions were as follows:

1. A total of 2,000 recruits per year need ESL training but would be referred to the ART program if no ESL program was available. This figure was calculated using the estimates that 5 percent of 100,000 recruits per year will be Hispanic and 40 percent of them will need ESL training.
2. The ESL program would have units at San Diego and Orlando with a language lab and an additional instructor required at each site.
3. Initial costs for the ESL program would be \$40,000 for setting up two language labs and \$100,000 for development of a Navy ESL curriculum.
4. Instructor student ratio would continue to be 1:15 for the ART program and 1:20 for the ESL module as recommended by the DLI.
5. Course length would average 20 instructional days for the ESL module which would precede the ART program. Half of the recruits completing the ESL module would need to go through the ART program which would also average 20 instructional days.
6. Attrition rate during recruit training would be 30 percent for those having only the ART program available (as was the case in the current study). Attrition would be cut to 15 percent with the addition of the ESL program. On the average, attrition would occur halfway through the program.
7. Students are E-1s and instructors are E-5s.
8. Useful life of the curriculum and language lab equipment is 10 years.
9. Consumable supplies cost \$2 per student per day.

COSTS AND BENEFITS

Costs include expenditures for teacher compensation, subsistence, supplies, equipment, and curriculum development but not buildings. Calculations described in this section are shown in table 7.

TABLE 7. WORKSHEET FOR ECONOMIC ANALYSIS

| | |
|--|---|
| 10 year cost for existing ART program | \$ 8,853,000 |
| Proportion graduating in ART program (10 years) | 14,000/20,000 (70%) |
| 10 year cost for new ESL program | \$15,002,000 |
| Proportion graduating in ESL program (10 years) | 17,000/20,000 (85%) |
| Difference in cost | $ \begin{array}{r} \$15,002,000 \text{ (ESL)} \\ \underline{8,853,000 \text{ (ART)}} \\ \$ 6,149,000 \text{ (Difference)} \end{array} $ |
| Difference in recruit graduates | $ \begin{array}{r} 17,000 \text{ (ESL)} \\ \underline{-14,000 \text{ (ART)}} \\ 3,000 \text{ (Difference)} \end{array} $ |
| Cost per additional graduate | $\$6,149,000/3,000 = \$2,049$ |

The 10-year life cycle cost of the ART program would be approximately \$8,853,000, and 1,400 recruits would graduate each year from recruit training (or \$632 per graduate).

The 10-year life cycle cost of the ESL program would be approximately \$15,002,000, and 1,700 recruits would graduate each year from recruit training (or \$884 per graduate).

Thus, the ESL program would cost more, but it also would result in 300 additional recruits per year graduating from recruit training (1,700 per year for the ESL program vs. 1,400 per year for the ART program). Over a 10-year period, the ESL program would cost \$6,149,000 more than the ART program but would result in 3,000 additional recruit graduates (or \$2,049 for each additional graduate).

The current estimate of replacement cost for each recruit in the Navy who attrites is estimated to be \$2,000. This includes costs for recruiting, travel, and subsistence. This replacement cost is about equal to the cost of each recruit which the proposed ESL program would save from attriting.

Taking into account the costs associated with attrition, the 10-year cost to the Navy of an ESL program is about equal to the cost of continuing the present ART program. The probable result would be an additional 3,000 successful recruits.

SECTION V

SUMMARY

This section contains conclusions and specific recommendations for the design and implementation of an ESL program.

CONCLUSIONS

The Hispanic group tested in this study had lower aptitude test scores and more difficulties in recruit training than recruits in general.

- Overall mean scores of the Hispanic recruits for the AFQT, Word Knowledge subtest of the ASVAB, and Gates-MacGinitie Reading Test were substantially below those for recruits in general.
- A higher proportion of the sample had reading abilities below the sixth grade (considered necessary to function in recruit training) than is true of the overall recruit population.
- The sample had particularly severe difficulties with oral English. This was not only reflected in test scores but was mentioned repeatedly as a problem by Company Commanders, instructors, and the recruits in the study.

These indications of difficulty were found to be correlated with lower than average performance in recruit training. When compared with recruits overall, the sample had:

- a higher attrition rate
- a higher rate of referral to ART
- more difficulty with recruit academic tests.

An analysis of questionnaire data, data in recruit files, as well as information obtained during interviews with the recruits, indicated that these difficulties are directly related to English language proficiency.

An English language training program could improve this situation. The present study was restricted to a single group located at one recruit training site. Evidence suggesting the need for a Navy ESL program was clear for the study sample. It is likely also that other ethnic groups experiencing difficulty with oral English would benefit by ESL training. These groups include Filipinos and other American-born ethnic groups in addition to Hispanics.

Many Hispanic recruits in the present study could read English well enough to pass enlistment exams, but had problems with spoken English. These recruits could not communicate well with Company Commanders, instructors, and fellow recruits.

Recruits with poor oral English skills are now referred to the ART program. ART is primarily a remedial reading course designed to provide the

recruit with reading and study skills to complete recruit training. Recruits are selected for the program on the basis of a reading test, with no assessment of oral comprehension skills.

GUIDELINES FOR ESTABLISHING AN ESL PROGRAM

A Navy ESL program should be designed using the following general guidelines provided by the DLIs English Language Center:

- develop all four English language skills (reading, writing, speaking, and listening)
- stress functional communication with an emphasis on military vocabulary and terminology.

The goals of a Navy ESL program should be to teach the language skills necessary for successful performance in recruit training, as well as follow-on training and fleet jobs. Curriculum materials published by DLI which were developed to meet these goals, include the three volume series, Navy Terminology: Seamanship (1975).

RECOMMENDATIONS

The need for an ESL program is clearly established. The following is specifically recommended.

- The program initially should be administered as a part of the ART program and the curriculum coordinated with that currently used in ART.
- The ECL test should be used in conjunction with the Gates-MacGinitie Reading Test to screen ESL candidates.
- Company Commanders should be allowed to refer recruits to ESL training.
- Recruits who need both ESL and reading remediation should be referred first to the ESL program.
- The program should incorporate existing Navy-relevant ESL curriculum materials such as have been developed by the DLI.
- All instruction should be conducted in English.
- All recruits who speak English as a second language and who have had no prior U.S. education should be automatically referred to the ESL program.
- Bilingual instructors should be used, when available, as the experience of learning a foreign language (not necessarily Spanish) provides insight into ESL instruction.

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- Consideration should be given to expanding the scope of an ESL training program to include natural-born Americans who have deficient oral English skills, since listening and speaking are necessary skills for successful functioning in the Navy.
- A full Navy-relevant ESL curriculum should be developed.

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APPENDIX A
RECRUIT QUESTIONNAIRE AND SUMMARY OF RESPONSES

This appendix contains the questionnaire given to each of the 102 recruits in the study and a tabulation of responses.

PERSONAL DATA
(Información Personal)

NAME: _____
(Nombre)

SOCIAL SECURITY #: _____
(# del Seguro Social)

PLACE OF BIRTH (or origin):
(Lugar de nacimiento (o origen))

Puerto Rico: 51

Mexican-American: 28

Other: 23 (Virgin Islands, Peru, Columbia,
Argentina, etc.)

AGE:
(Edad)

RANGE: 17-29

AVERAGE: 19.6

YEARS OF STUDIES:
(Años de Estudio)

RANGE: 8-16 Years

AVERAGE: 12.2

NUMBER OF YEARS OF ENGLISH STUDY:¹
(# de años de estudio en ingles)

RANGE: 0-16 Years

AVERAGE: 9.8

PLACE OF STUDY(IES):
(Lugar de Estudio(s)):

Included: New York, New Jersey, Texas, Mexico,
Puerto Rico, Arizona, Florida, California

¹ Includes English/Spanish bilingual education or at least 2-3 hours of English instruction per day.

WHAT LANGUAGE DO YOU SPEAK PREDOMINANTLY IN A SOCIAL SITUATION, SPANISH OR ENGLISH? (Qué idioma habla Ud. predominantemente, español o inglés?)

TOTAL

SPANISH: 36/102 (35.3%)

ENGLISH: 47/102 (46.1%)

EQUAL: 19/102 (18.6%)

ART GROUP

SPANISH: 21/33 (63.6%)

ENGLISH: 7/33 (21.2%)

EQUAL: 5/33 (15.2%)

NO PRIOR U.S. STUDIES

SPANISH: 23/26 (88.5%)

ENGLISH: 0

EQUAL: 3/26 (11.5%)

LANGUAGE SPOKEN AT HOME:
(Idioma que habla Ud. en el Hogar)

SPANISH: 57/102 (55.9%)

ENGLISH: 10/102 (9.8%)

BOTH: 35/102 (34.3%)

WHY DID YOU JOIN THE NAVY?
(Porqué se enlistó Ud. en la Naval?)
25/102 (24.5%) RECRUITS ANSWERED IN SPANISH

Representative responses are directly quoted.

- To study
- To learn English
- ... good pay
- To continue my studies in electronics
- To learn a trade or skill
- To get a job

- To travel, see the world
- To serve my country
- The Navy offers me a better future
- For adventure...
- I like the military, the Navy
- To change my life
- To get some discipline.

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APPENDIX B

COMPANY COMMANDER QUESTIONNAIRE AND SUMMARY OF RESPONSES

This questionnaire was administered to 18 Company Commanders at RTC Orlando. Responses to the questionnaire are contained below and are quoted directly.

1. From your experience do you feel there is a need for an ESL program?

YES: 11

NO: 7

2. What, if any, specific problems have you encountered?

- Not understanding basic instructions. Recruits don't seem to understand instructions and questions given by MED inspectors.
- Slow in learning and keeping up with the average recruit academically.
- Spanish-speaking people that cannot comprehend the written English language very well when the written questions ask for a specific answer.
- People, especially of Spanish background, having problems understanding and reading English.
- Getting Spanish-speaking personnel to understand what the CC is teaching.
- Personnel in positions like instructors are very difficult to understand.
- One recruit recycled from present training unit basically because of his inability to read/understand English.
- Problems in the understanding and speaking of the English language appear to be prevalent among recruits from the Virgin Islands and Puerto Rico. It is extremely difficult to communicate with them and I'm not sure that they comprehend what is being said.
- Recruits with a language problem have much trouble performing within training unit standards as it requires quick thought, quick comprehension at times, and a thorough comprehension of the task at hand. Having difficulty understanding English, recruits have a problem comprehending the task or situation as a whole, not to speak of lesser details and tasks involved. These recruits also are often unable to make themselves understood and meet with frustrations at this point.

3. How long have you been a CC and how many recruits have you personally known who seem to fit the ESL category?

- 4 (in two years)
- 6 (in one year)
- 2 (in two years)
- 2 (in two months)
- 6 (in two and a half years)
- 6 (in two months)
- 1 (in every training unit)

- 10 (in three and a half years)
- 40 (in 5 training units during 20 months)
- 6 (in two and a half years)

4. Comments and recommendations are invited.

- Maybe a program like ESL in conjunction with Academic Remedial Training would help those individuals.
- I feel the ESL problem should be handled prior to recruit training.
- I don't feel that it's our responsibility to teach the English language to a recruit. The recruit should be able to speak, read, and comprehend English before he gets here. This is the job of our school system. A foreign individual should be screened more closely by the recruiter and the AFEES for suitability to enter the Armed Forces. A single test could be devised and administered there. I can't see us wasting our time.
- I feel that this ESL program would be a great help to many of the Spanish-Americans; however, it should be given to them prior to arrival at RTC.
- I strongly feel that understanding or speaking English should be a testable prerequisite prior to entering the Navy. Let's not spend more tax dollars than necessary.
- Insure that entrance exams are administered properly. Place personnel on Delayed Entry Program (DEP) for English classes.
- I feel that clothes folding/stowing, and infantry are basically no problem, with what English recruits are taught in their homelands. If a program is instituted I would like to see Naval terminology taught so that when a recruit goes to the Fleet he/she may converse in English when dealing with Navy-oriented matters. I feel a better screening process at the AFEES station would tend to eliminate this problem in the first place. If a recruit can pass the entrance test then he/she should already have a working knowledge of the English language.
- I feel that recruits or persons interested in joining the Navy should meet the required entrance examinations before allowed to proceed in the Navy. Taking the Navy's overall mission and its importance into consideration, the fact that this is an English-speaking Navy and all publications, manuals, etc. are written in English, and that a thorough understanding of the language used is mandatory for performance of tasks assigned and to the assigned, that "Stopgap" measures are ineffective overall. I believe such persons should be encouraged by prospective recruiters to build their language skills and then take the entrance test, i.e., ASVAB.

APPENDIX C

INSTRUCTOR QUESTIONNAIRE AND SUMMARY OF RESPONSES

This questionnaire was administered to four Academic Remedial Training (ART) instructors and one administrator at RTC Orlando. Responses to the questions are contained below and are quoted directly.

1. From your experience do you feel there is a need for an ESL program ?

- Yes. It is evident from the incidence of Hispanic recruits in ART and those who experience difficulties in training without ever being referred to ART that we do receive recruits with ESL problems.
- Yes.
- Definitely. There is a need for the program because we are getting a large number of Hispanics through our ART program that have some English problems.
- Only if it expands upon the reading and writing skills as well as the speaking and listening skills.
- Dealing with ESL students is a problem brought about by lowering of standards for entrance into the Navy, and has to be faced.

2. What, if any, specific problems have you encountered with ESL recruits?

- The primary problem is difficulty with oral/aural language skills. It evidences itself not only in the academic side of recruit training but also in the military side with inability/slowness in responding to orders and Company Commander (CC) training.
- Listening and speaking appear to be the major problem areas.
- 1. Speaking English (communication)
 2. Written English
 3. English Word Knowledge (vocabulary)
 4. Comprehension
- Frustration due to lack of comprehension of what is going on around them - also their own limited ability to express themselves in English. Most of them, like the English-speaking recruits, have absolutely no concept of the working of boot camp; but, unlike the English speaking, their ability to understand explanations is seriously limited - leading to more frustration.
- No one approach to teaching English seems to have worked. Each ESL student arrives in ART with different skill levels. The most common problem is difficulty with sight words. If they seem to understand sight words, they appear to have difficulty with the rhythm of the English language.

3. Do you feel the current ART program is appropriate for ESL recruits?

- No. The only way the current ART program can help is by chance-- just by keeping recruits out of training for a period of time and forcing them to respond in an English-only environment. ART may, in fact, be demotivating since these recruits may not have a problem with reading skills.
- No, as the current ART program deals only with reading skills. Most ESL candidates need the verbal and listening skills of an ESL program.
- No. We should use the ART program for Hispanics as a reinforcement period prior to their being placed into a training unit or even into basic training.
- It is appropriate in that it does allow ESL recruits time out of regular training to learn the basics - how to cope with boot camp in general. It also does improve their English vocabularies and skills but ESL recruits need more emphasis on conversation.
- In the current ART program the ESL students suffer from a lack of concentrated conversation skills.

4. What specific changes or recommendations would you suggest?

- An ESL program focusing on language skills is a necessity. Involvement of the Defense Language Institute is to everyone's advantage. Learning from the Army's experiences in this area would be helpful in avoiding pitfalls. Consideration of English comprehension screening prior to enlistment, particularly in the Philippines and Puerto Rico and possibly of non-resident aliens, and the establishment of an ECL cut-score for enlistment should be considered (one high enough which would allow for effective remediation taking no more than five weeks in recruit training).
- A separate program for those who speak ESL.
- I would recommend that all Hispanics be tested for the ESL program and a reading test be administered before they enter into Basic Training. All of this should be done at RIF as part of a screening process.
- 1. More time devoted to listening and speaking skills.
 2. Separate classroom for the above reason.
 3. Mandated length of at least 4 weeks in ESL.
 4. Longer (than for English-speaking) Study Skills module with emphasis on note taking.

5. As total an immersion in English as possible - i.e., no bilingual approach to the program.
- I would suggest that there be an increased emphasis on written and verbal vocabulary.

APPENDIX D

DESCRIPTION OF TESTS IN BATTERY GIVEN TO RECRUITS
IN THE ACADEMIC REMEDIAL TRAINING PROGRAM

Each test described below was given to the 33 subjects referred to the Academic Remedial Training program. In addition to these tests, two others, the Armed Services Vocational Aptitude Battery (ASVAB) and the Gates-MacGinitie Reading Test, Survey D, were administered to all recruits.

Time and technique of administration (group vs. individual) are shown.

ENGLISH COMPREHENSION LEVEL (ECL) TEST

This was developed by the Defense Language Institute and is currently used by the U.S. Army as the screening test in their ESL program. The ECL test was designed to determine English language proficiency in listening and reading. The aural portion (Part I) of the examination, which is recorded on magnetic tape, is designed to determine the student's ability to understand spoken English. The reading portion (Part II) is designed to test the ability of a student to use correct grammatical forms and to understand written material.

The aural portion requires 33 minutes and is administered in a group.
The reading portion requires 35 minutes and is administered in a group.
Total time for administration is 68 minutes.

LANGUAGE ASSESSMENT BATTERY

This was designed to assess the four components of the language process--reading, writing, listening, and speaking. Separate tests assess English and Spanish and the tests are appropriate for students in kindergarten through high school (K-12). The present study used Level III (7-12) in both versions, Spanish and English. Time and method of administration are the same for both the English and Spanish versions of the test.

The listening component requires 8 minutes and is administered in a group.
The reading component requires 20 minutes and is administered in a group.
The writing component requires 8 minutes and is administered in a group.
The speaking component requires 5 minutes and is administered individually.
Total time for administration is 41 minutes.

INTER-AMERICAN SERIES TEST OF READING

This was developed by Guidance Testing Associates and measures English vocabulary and comprehension for those who speak English as a second language.

The vocabulary component requires 10 minutes and is administered in a group.
The speed of comprehension component requires 6 minutes and is administered in a group.
The level of comprehension component requires 25 minutes and is administered in a group.
Total time for administration is 41 minutes.

COMPREHENSIVE ENGLISH LANGUAGE TEST (LISTENING TAPE)

This is designed to provide a series of reliable and easy-to-administer tests for measuring the English language ability of non-native speakers. It is

appropriate for high school, college, and adult programs of English as a second language (ESL) on the intermediate and advanced levels. It is useful as a placement test and as a measure of course achievement. In the present study, only the listening tape was administered. This test assesses the ability to comprehend short statements, questions, and dialogues as spoken by native speakers of English.

The listening tape requires 40 minutes and is administered in a group.

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